

Occurrence of *Procleomenes* (Coleoptera, Cerambycidae) in the Philippine Islands, with Descriptions of Three New Species

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Abstract The cerambycine genus *Procleomenes* is recorded for the first time from the Philippines on the basis of three new species from Mindoro and Mindanao Islands. *Procleomenes ebiharai* sp. nov. from Mindoro belongs to the group of *P. borneensis* and has close relationship to *P. cabigasi* sp. nov., the other new species of the same group from Mindanao. Though sharing basic characters, the two new species are easily distinguished by the coloration of antennae and the shape of elytral apices. *Procleomenes philippinensis* sp. nov. from Mindanao belongs to the group of *P. elongatithorax* and is characterized by the convergent apical part of the pronotum and the three pale bands on the elytra.

Key words: Coleoptera, Cerambycidae, *Procleomenes*, Philippines, new species.

Introduction

Though twelve species belonging to the genus *Procleomenes* GRESSITT et RONDON have been known from East and Southeast Asia (GRESSITT & RONDON, 1970; NIISATO, 1981, 1985, 1986; HUA, 1986; HOLZSCHUH, 1991, 1998), no representative of this genus has so far been recorded from the Philippine Islands. Through the courtesy of our colleagues, we were able to examine four specimens of *Procleomenes* collected from Mindoro and Mindanao Islands of the Philippines. Our careful examination revealed that they were classified into three new species of two different lineages, the group of *P. borneensis*, to which belong *P. ebiharai* sp. nov. from Mindoro and *P. cabigasi* sp. nov. from Mindanao, and the group of *P. elongatithorax*, to which belongs *P. philippinensis* sp. nov. from Mindanao. In this paper, we will record the genus for the first time from the Philippine Islands based on these three new species.

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Procleomenes ebiharai NIISATO et VIVES, sp. nov.

(Figs. 1 & 4)

Female. Length 8.3–9.5 mm (from apical margin of clypeus to abdominal apex); width: 1.6 mm (across humeri of elytra).

Large robust species, with rather large fore body, long and slender appendages.

Colour brownish black to dark brown, shiny, with faint blue tint on head, purplish or green tint on pronotum; antennae unicolorously dark brown, peduncles of femora yellowish white; mouthparts yellowish brown, with mandibles dark reddish brown except for infusate inner margins; elytra blackish brown, with two broad transverse pale yellow bands on basal and apical third.

Head large, with large, strongly prominent eyes, distinctly wider than pronotal apex (1.25:1), very sparsely provided with small punctures, obliquely furrowed at sides of occiput behind eyes, sparsely clothed with pale yellow hairs; frons nearly 7/10 the length of basal width, almost flattened, gently convex in apical half, rather closely and coarsely punctured, with a shallow median longitudinal groove extending to the anterior part of occiput, which disappears near apex, rather densely pale pubescent; vertex moderately concave, more deeply so along median line; genae nearly half the depth of lower eye-lobes; eyes markedly prominent, with upper-lobes large, separated from each other by 5/8 the width of occiput. Antennae fairly long and rather slender, a little longer than body, sparsely clothed with pale yellow hairs, with apical half of segment 5 and 6–11 with dense minute pale pubescence, undersides of segments 2–6 each with a sparse row of erect dark reddish brown hairs, though the erect hairs are very long and stout at each apex of 3 and 4; scape moderately clavate in apical 3/5, widest at apical fourth, rugosely punctured in basal half; segment 3 strongly dilated apicad, 2/5 the length of scape, a little more than a half the length of segment 4, which is distinctly thickened at apex and 4/5 the length of segment 5; segments 5–8 slightly decreasing in length, apical three segments reduced in length, terminal segment arcuate.

Pronotum rather large, not so long, 2.08–2.18 times as long as the apical width, a little more than a half the length of elytra, hardly dilated apicad; sides feebly sinuate in apical 2/9, weakly arcuate at a level between apical 2/9 and basal 4/9, with subtriangularly prominent lateral tubercles just before basal 4/9, then strongly constricted and distinctly dilated to hind angles; base emarginate near middle, nearly equal in width to apex; disc distinctly convex, with five common swellings well prominent and approximate to each other, of which a pair of rounded ones are at apical third, a pair of longitudinal oblong ones at basal third, and a median oblong one between the anterior pair; surface very sparsely punctured, except for the areas around the discal swellings which are more or less rugose, and also with subtransverse furrows on basal collar, sparsely clothed with pale yellow hairs. Scutellum dilated apicad, rounded at apex, densely clothed with silvery white pubescence.

Elytra moderate in length and broad, 2.82–3.12 times as long as the humeral width, reaching base of anal tergite, a little exposing the sides of metathorax, arcuately

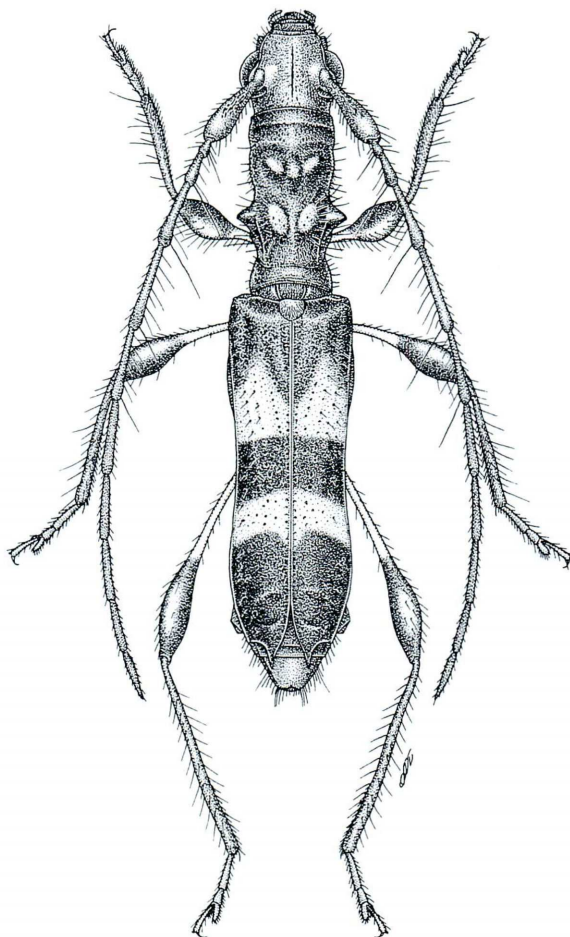


Fig. 1. *Procleomenes ebiharai* NIISSATO et VIVES, sp. nov., holotype ♀ from Mindoro, the Philippines.

dehiscent in apical 3/20; sides subquadrate at humeri, weakly arcuately narrowed to middle, moderately arcuately dilated to apical 4/5 then arcuately narrowed to apices which are obliquely emarginate, with small external dents and relatively long acute sutural teeth; disc almost flattened, with shallow longitudinal depression near suture behind scutellum, slightly impressed at apical 4/5; surface rather sparsely punctured, though the punctation becomes somewhat sparser near bases and apices, rather sparsely clothed with short pale hairs.

Venter of thoraces very sparsely pale yellow haired in most part, partly with dense silvery white pubescence at sides and middle of prosternum, most of mesothorax, basal third and apical margin of metasternum, small posterior part of metepisternum, and near hind coxae. Prosternum coarsely rugose near middle, with shallow transverse

furrows on the rest; prosternal process compressed and almost flattened between the coxal cavities, gradually dilated and depressed behind them and gently arcuate at apex. Mesosternum smooth, though somewhat rugose near base, with mesosternal process rather broad and almost parallel between the coxal cavities, distinctly bordered at sides. Metasternum very sparsely punctured and shagreened, with the anterior margin slightly produced and resting on mesosternal process. Abdomen broad and rather short, arcuate at sides, provided with a few minute punctures, scattered with pale yellow hairs, with anal sternite gently arcuate at apex.

Legs fairly long and rather slender; hind femur weakly arcuate near base, and moderately swollen in apical third.

Type series. Holotype ♀, Mt. Halcon, Mindoro Is., Philippines, 23–III–1993, H. EBIHARA leg. Deposited in the National Science Museum (Nat. Hist.), Tokyo. Paratype: 1 ♀, same locality and collector as the holotype but 24–III–1993. Deposited in the private collection of T. NIISATO.

Distribution. Mindoro, Philippines.

Notes. *Procleomenes ebiharai* sp. nov. is characterized by the large fore body, two pale bands on the elytra, and the long stout appendages, and no doubt belongs to the group of *P. borneensis*. The only known members of the species-group are *P. borneensis* NIISATO from northern Borneo and *P. malayanus* NIISATO from the Malay Peninsula. Though *P. ebiharai* sp. nov. seems to have closer relationship to the Bornean species, it is easily discriminated from the latter by the large and robust body and the distinctly toothed elytral apices.

The two female specimens examined were unexpectedly collected by random sweeping in the natural forest on Mt. Halcon of Mindoro Island. According to personal communication from H. EBIHARA, the collector of the type series, the specimens were found at the collecting site of the mountain, where there were neither flowers nor natural gaps in the primeval forest.

***Procleomenes cabigasi* NIISATO et VIVES, sp. nov.**

(Figs. 2 & 5)

Female. Length 9.8 mm (from apical margin of clypeus to abdominal apex); width: 1.8 mm (across humeri of elytra).

Closely allied to the preceding species, *P. ebiharai* sp. nov., but is easily distinguished by the pale colored apical segments of antenna, and the markedly produced sutural teeth of elytral apices.

Colour almost as in *P. ebiharai*, though slightly more blackish and without bluish or greenish tint on fore body; antennae with segments 1–4 brownish black, segment 5 dark brown with brownish base, segments 6–8 dark brown with yellowish bases which are lighter in coloration and enlarged in yellowish parts towards apical segments, segments 9–11 almost pale yellow. Hairs and pubescence almost as in *P. ebiharai*, though denser on ventral surface, sides of prosternum almost devoid of pubescence.

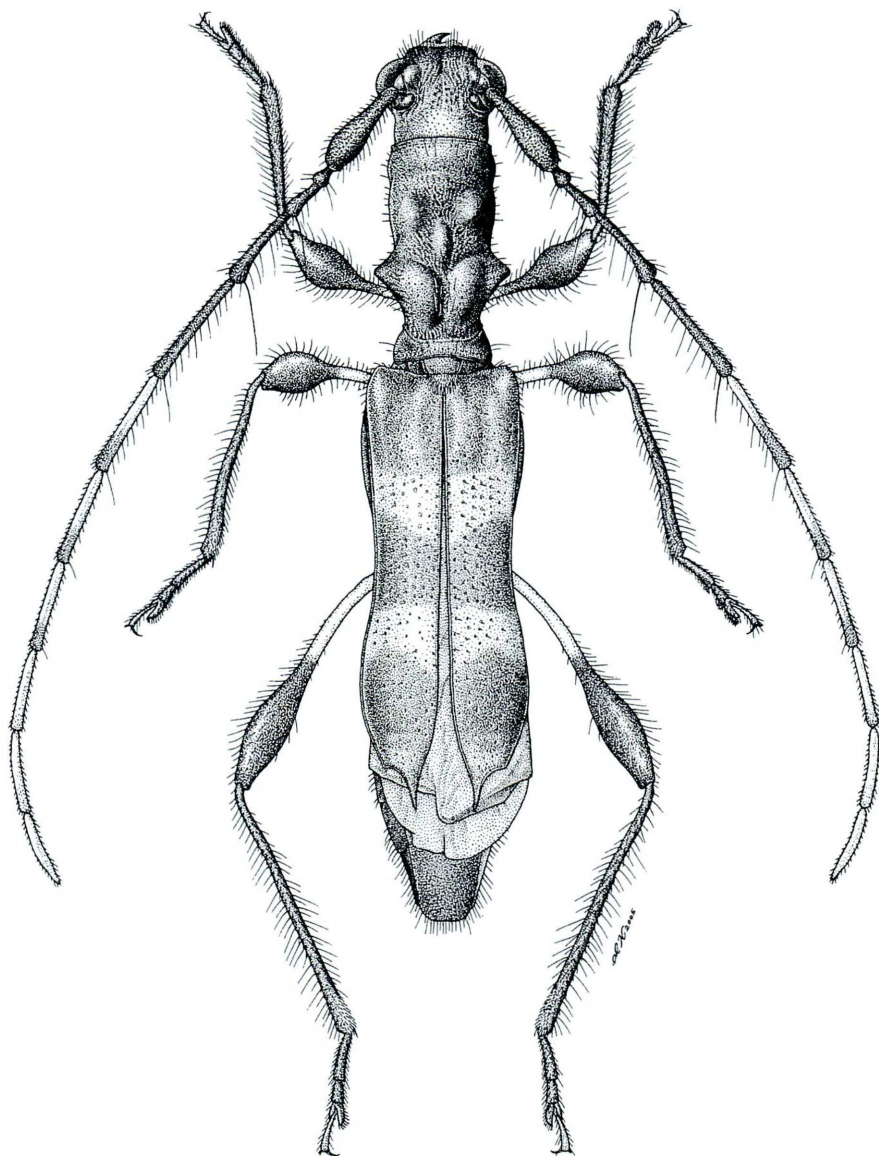


Fig. 2. *Procleomenes cabigasi* NISATO et VIVES, sp. nov., holotype ♀ from Mindanao, the Philippines.

Head almost as in *P. ebiharai*, moderately provided with small punctures, with an oblique furrow just behind eyes; frons scattered with coarse punctures, with a vestigial median longitudinal groove in basal half; vertex widely and moderately concave; genae $2/5$ the depth of lower eye-lobes. Antennae a little exceeding abdominal apex, each segment slightly longer than in *P. ebiharai*, with apical three segments not re-

duced in length, terminal segment nearly straight. Pronotum almost as in *P. ebiharai*, just a half the length of elytra, with five common discal swellings strongly prominent, of which a median oblong one is located just behind anterior pair, posterior pair strongly approximate and divided by a deep groove, almost smooth on surface, only scattered with a few small punctures, strongly rugose in distinct groove around the discal swellings. Scutellum slightly larger than that of *P. ebiharai*. Elytra almost as in *P. ebiharai*, with apices oblique and obtuse at external angles, with markedly prolonged arcuate teeth at sutural sides. Ventral surface almost as in *P. ebiharai*. Legs almost as in *P. ebiharai*, with hind femur moderately swollen in apical 2/5.

Type specimen. Holotype ♀, Bukidnon, Mindanao, Philippines, 26–IV–2002, S. S. CABIGAS leg. Deposited in the Museu Zoologia Barcelona.

Distribution. Mindanao, Philippines.

Notes. This new species may possibly be regarded as a local population of the preceding species, *P. ebiharai* sp. nov., since many basic characters are shared by the two species. However, we described it as an independent species for the reason of quite different coloration of antennae, the absence of dense pubescence at the sides of prothorax, markedly prolonged apices of the elytra, and some other details. It is also very interesting from zoogeographical viewpoint since the two sibling species of the same species-group are isolated in the region of Mindoro and the Sulu Islands and the region of Mindanao of the Philippine Islands.

A single female specimen of this new species without ecological information was available for description.

***Procleomenes philippinensis* NIISATO et VIVES, sp. nov.**

(Figs. 3 & 6)

Female. Length 8.5 mm (from apical margin of clypeus to abdominal apex); width: 1.6 mm (across humeri of elytra).

Large species having three pale bands on the elytra, and somewhat similar to *P. elongatithorax*.

Colour brownish black to black, partly pale yellow, shiny; head black, with mouthparts reddish brown, except for black mandibular apices and yellowish brown palpi; antennae dark brown in basal three segments, segments 4–5 dark brown with reddish brown basal parts, segments 6–9 light yellowish brown with dark brown apical parts, apical two segments almost entirely light yellowish brown; pronotum and scutellum black; elytra dark brown though more brownish in apical parts, decorated with pale yellow bands at base, and basal and apical 3/8; ventral surface brownish black, slightly brownish at base of prosternum, mesosternum and abdomen; legs chestnut brown with pale yellow pedunculate parts of femora, tarsi dark yellowish brown though more yellowish in claws and 3rd segments.

Head relatively large, with strongly prominent eyes, strongly wider than pronotal apex (1.38 : 1), sparsely provided with small punctures, sparsely with pale yellow hairs;

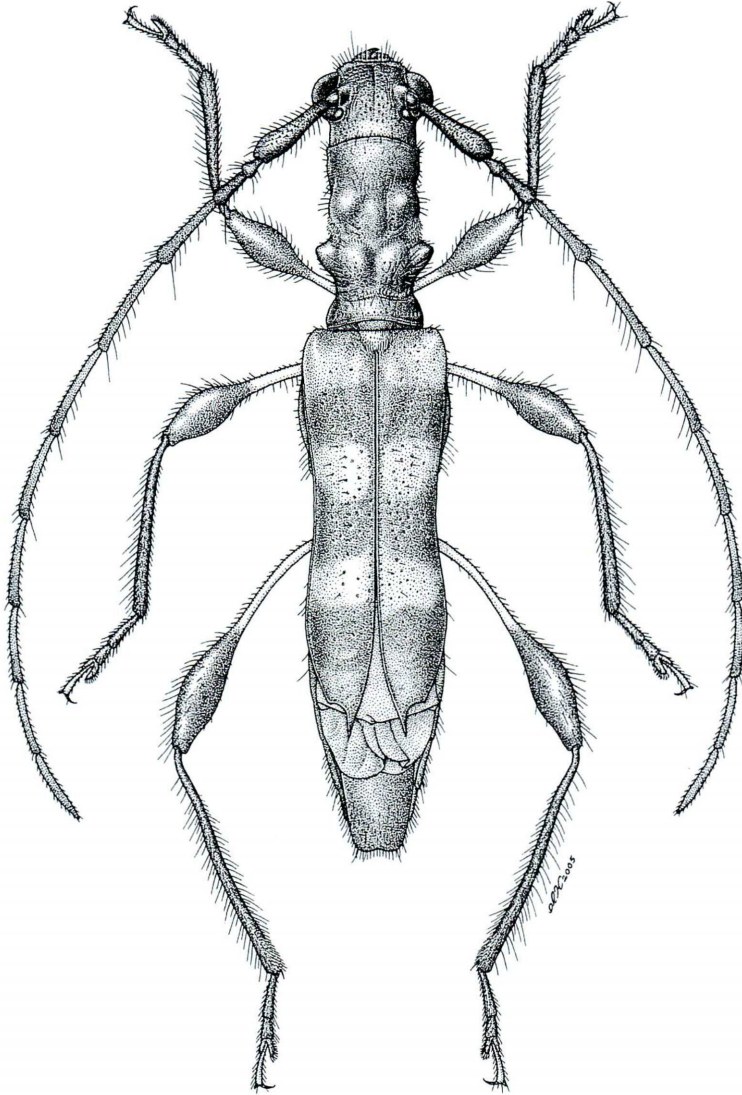


Fig. 3. *Procleomenes philippinensis* NIISATO et VIVES, sp. nov., holotype ♀ from Mindanao, the Philippines.

frons relatively long, $9/10$ the length of basal width, gently convex on anterior half, closely and coarsely punctured, rather densely with pale pubescence, with a shallow median longitudinal groove nearly reaching apical margin and extending to occiput; vertex moderately concave, more deeply so along median line; genae rather deep, $2/3$ the depth of lower eye-lobes; eyes markedly prominent, with upper-lobes rather large, separated from each other by $3/5$ the width of occiput. Antennae not so long and rather

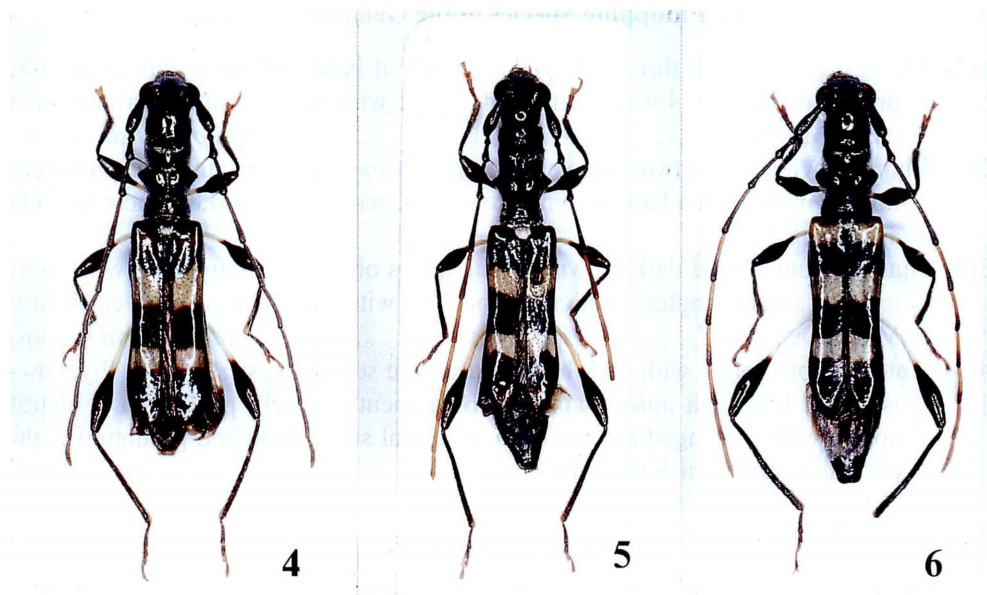
slender, barely reaching abdominal apex, sparsely clothed with pale yellow hairs, with apical third of 5 and 6–11 with dense minute pale pubescence, undersides of 2–6 each with a sparse row of erect brownish hairs, though the erect hairs are slightly longer and stouter at each apex of 3 and 4; scape weakly clavate apicad, widest at apical third, sparsely punctured; segment 3 strongly thickened apicad, a little less than $2/5$ the length of scape, nearly a half the length of segment 4, which is weakly thickened at apex, and $3/4$ the length of segment 5, segments 5–10 slightly decreasing in length, terminal segment simply pointed, nearly equal in length to the preceding.

Pronotum relatively short and moderately voluminous, nearly twice the length of apical width, $4/9$ the length of elytra, weakly narrowed towards apex which is slightly narrower than base; sides slightly sinuate in apical fifth, weakly arcuate at a level between apical fifth and middle, with obtusely triangular lateral tubercles at basal $3/8$, arcuately dilated in basal fifth; base slightly emarginate at margin; disc strongly convex, with five common swellings well prominent, of which a pair of rounded small ones are on apical $3/8$, a pair of subquadrate ones just before basal third, and an oblong median one just behind the anterior pair; surface entirely smooth, provided with a few shallow large punctures on the intervening areas of discal swellings, near base and at sides, scattered with long pale yellow hairs, and partly with dense silvery white pubescence at sides of the middle. Scutellum semicircular, moderate in length, densely clothed with silvery white pubescence.

Elytra moderate in length and rather broad, 2.75 times as long as the humeral width, reaching base of anal tergite, a little exposing the sides of metathorax, arcuately dehiscent in apical sixth; sides subquadrate at humeri, weakly arcuately narrowed to before middle, moderately arcuately dilated to apical sixth, then arcuately narrowed to apices which are obtusely dentate at external angles, and forming prolonged arcuate teeth at inner side; disc almost flattened, with shallow oblong depression near suture behind scutellum, slightly impressed at apical sixth; surface sparsely provided with moderate-sized punctures, thinly with short pale hairs.

Venter of thoraces very sparsely haired in most parts, with dense silvery white pubescence at sides and middle of prosternum, in mesothorax, near basal and apical margins of metasternum including coxae, and apical fifth of metepisternum, and near hind coxae. Prosternum finely rugose near middle, transversely furrowed in apical $3/7$, provided with a few coarse punctures near apical margin; prosternal process compressed and slightly vertical between the coxal cavities, slightly dilated to rounded apical part which is depressed. Mesosternum smooth, finely punctured near base, with mesosternal process rather broad and parallel-sided, distinctly bordered at margins, truncate at apex. Metasternum smooth near middle, very sparsely scattered with punctures, with the anterior margin produced and just meeting mesosternal process. Abdomen broad and moderate in length, arcuate at sides, provided with a few shallow medium-sized punctures, scattered with a few pale yellow hairs; anal sternite gently produced to middle in apical margin.

Legs fairly long and slender, with hind femur weakly arcuate near base, and mod-



Figs. 4–6. Holotypes of *Procleomenes* spp. nov. from the Philippines. — 4, *P. ebiharai* NIISATO et VIVES, sp. nov., from Mindoro; 5, *P. cabigasi* NIISATO et VIVES, sp. nov., from Mindanao; 6, *P. philippinensis* NIISATO et VIVES, sp. nov., from Mindanao.

erately swollen in apical 5/12.

Type specimen. Holotype ♀, Bukidnon, Mindanao, Philippines, 29–IV–2002, S. S. CABIGAS leg. Deposited in the Museu Zoologia Barcelona, Barcelona.

Distribution. Mindanao, Philippines.

Notes. This new species may have some relationship to *P. elongatithorax* GRESITT et RONDON, originally described from Laos of Indochina, for reason of the small fore body contracting the whole body length, the convergent apical part of pronotum and the three pale bands on the elytra. The two species may have been derived from a common ancestor and are now isolated in the Philippines and Indochina, though their dispersal routes are difficult to estimate since there is a very wide blank between the known ranges of the two species.

Though belonging to different lineages, this new species and *P. cabigasi* sp. nov. share the pale apical segments of antenna and the acutely prolonged apices of elytra. These character states may be caused by convergence in dwelling in the same habitat of Bukidnon of Mindanao Island.

Procleomenes philippinensis sp. nov. is at present known only from the female holotype collected from Bukidnon of Mindanao Island.

Key to the Philippine Species of the Genus *Procleomenes*

- 1(2) Elytra provided with three pale yellow bands at base and basal and apical 3/8; pronotum shorter, 4/9 the length of elytra, with apical width narrower than basal; Mindanao *P. philippinensis* sp. nov.
- 2(1) Elytra provided with two pale yellow bands at basal and apical third; pronotum longer, more than a half the length of elytra, with apical width almost as wide as the basal.
- 3(4) Antennae unicolored dark brown; elytral apices obliquely emarginate, with short teeth at sutural angles; head and pronotum with faint bluish or greenish tint; Mindoro *P. ebiharai* sp. nov.
- 4(3) Antennae bicolored, with dark brown basal five segments, segments 6–9 yellowish with brownish apices, apical two segments entirely pale yellow; elytral apices with prolonged arcuate teeth at sutural sides; head and pronotum without bluish or greenish tint; Mindanao *P. cabigasi* sp. nov.

Acknowledgements

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要 約

新里達也・E. VIVES: *Procleomenes* 属のフィリピン初記録と3新種の記載. — *Procleomenes* 属のカミキリムシは、東アジア～東南アジアにかけての地域からこれまでに12種が記録されているが、フィリピンからは未知であった。今回、同諸島のミンドロ島とミンダナオ島から採集された本属の3新種をもとに、同諸島から初めて本属を記録した。インドシナからスンダランドにかけて分布の中心をもつと考えられていた本属のカミキリムシがフィリピンより見出されたことは、本属の分布拡散を考察するうえできわめて重要な発見だといえる。

1) *Procleomenes ebiharai* NIISATO et VIVES, sp. nov.: 海老原裕之氏によって、ミンドロ島で得られた個体をもとに命名記載した本種は、マレー半島とボルネオから知られる *P. borneensis* 種群に属する。もっとも近縁な種はボルネオの *P. borneensis* であるが、大きく頑強な体や鋭く尖る上翅端の形状などにより区別は容易である。

2) *Procleomenes cabigasi* NIISATO et VIVES, sp. nov.: 前種にきわめて近縁で、ミンダナオ島におけるその地域集団ともみなされる。ただし、本種では触角先端節が黄白色となり、上翅端は細長く突出するなどの特徴を備えており、明確に識別することができる。地理的に遠い隔離と明瞭な形態的形質から、あえて独立種として命名記載した。

3) *Procleomenes philippinensis* NIISATO et VIVES, sp. nov.: *P. elongatithorax* 種群に所属する本種は、ミンダナオ島から発見された。近縁な既知種はインドシナの *P. elongatithorax* であるが、ミンダナオ島との中間地域には本種群が分布しておらず、その分布拡散経路の特定は難しい。本種も

前種と同様で、触角の先端節は黄白色となり、上翅先端は細長く突出する。系統的に遠縁な2種におけるこれらの相似は、おそらくミンダナオにおける本属の収斂現象だと考えられる。

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Thranius ornatus (Coleoptera, Cerambycidae) from Thailand

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Thranius ornatus GRESSITT et RONDON was described from Phou Khao Khoay in Central Laos, and has so far been known only from the type locality. The first author, Y. Ito collected this species from Central Thailand in December of 1996 as recorded in the following lines. This is not only the second locality but also the first record from Thailand for the species.